

(19) World Intellectual Property Organization  
International Bureau



(43) International Publication Date  
29 September 2005 (29.09.2005)

PCT

(10) International Publication Number  
**WO 2005/091406 A3**

(51) International Patent Classification:  
*H01M 8/02* (2006.01) *H01M 8/12* (2006.01)

(21) International Application Number:  
PCT/JP2005/005606

(22) International Filing Date: 18 March 2005 (18.03.2005)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
2004-085851 24 March 2004 (24.03.2004) JP

(71) Applicant (for all designated States except US): **HONDA MOTOR CO., LTD.** [JP/JP]; 1-1, Minami-Aoyama 2-chome, Minato-ku, Tokyo, 1078556 (JP).

(72) Inventor; and

(75) Inventor/Applicant (for US only): **YAMADA, Takayuki** [JP/JP]; c/o KABUSHIKI KAISHA HONDA GIJUTSU KENKYUSHO, 4-1, Chuo 1-chome, Wako-shi, Saitama, 3510193 (JP).

(74) Agents: **CHIBA, Yoshihiro** et al.; Shinjuku Maynds Tower 16F, 1-1, Yoyogi 2-chome, Shibuya-ku, Tokyo 1510053 (JP).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

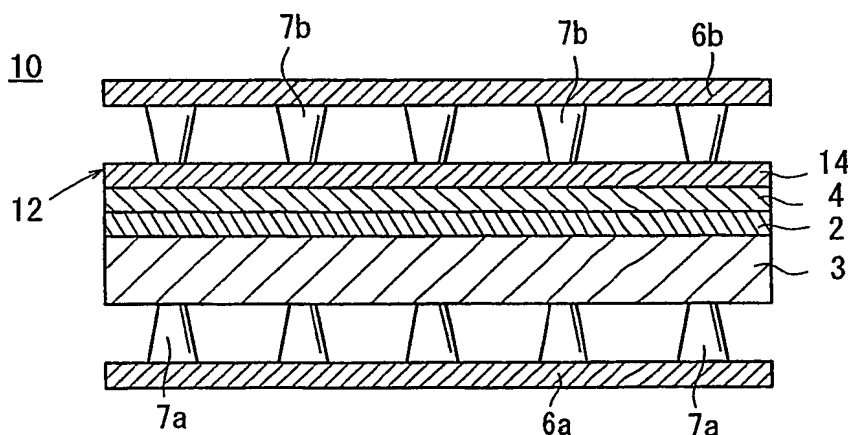
Published:

— with international search report

(88) Date of publication of the international search report:  
2 March 2006

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: ELECTROLYTE ELECTRODE ASSEMBLY AND METHOD OF PRODUCING THE SAME



(57) Abstract: A unit cell (10) of a fuel cell is formed by sandwiching an electrolyte electrode assembly (12) between a pair of separators (6a, 6b). The separators (6a, 6b) include bosses (7a, 7b) protruding toward an anode (3) or a cathode (4). On one surface of the electrolyte electrode assembly (12) facing the separator (6b), the cathode (4) is provided. Then, an electron diffusion layer (14) is provided on the cathode (4). Electrons which reach the electron diffusion layer (14) through the bosses (7b) are diffused over the entire area of the electron diffusion layer.

(14). By the electrons, reduction of oxygen in the oxygen-containing gas which has passed through a second passage between the bosses (7b) occurs. As a result, oxide ions ( $O^{2-}$ ) are generated.